

52803

HYDRO FLAME FA-78 SERIES INSTALLATION AND OPERATING INSTRUCTIONS

Sealed combustion system (direct vent) Appliances for installation in Recreational Vehicles (Not tested for use with air filters or air conditioning)

Model No.	Input BTU/hr.	Bonnet Capacity	Type Gas	Electrical Rating
FA-7832 (D or P) (S or B)	32,000	25,600	Propane	12V.D.C. 5.8 AMP
FA-7825 (D or P) (S or B)	25,000	20,000	Propane	12V.D.C. 4.8 AMP

Letters after the Model Number stand for:

D = Direct Spark Ignition
P = Pilot with Piezo Ignition

S = Side Ducted
B = Bottom Ducting

Overall Casing

Dimensions

Length: 23 $\frac{1}{2}$ "
Height: 12 $\frac{3}{4}$ "
Width: 13"
Weight:

Minimum Clearances

to Combustibles

Bottom: 0"
Side: 1"
Rear: 0"
Top: $\frac{3}{8}$ "
Front: 1"

Number of Side Ducts Required:

FA-7832: 3
FA-7825: 2

For return Air a minimum of
64 sq. in. is required

INSTALLATION

This Furnace must be installed in accordance with these instructions and all National or Local Codes and CSA standards Z240.4 and Z240.6.1 or Z240.6.2

The Furnace must be installed with the inlet air box (B) and exhaust tube (C) through an outside wall.

The Furnace should be as near to the center of the vehicle as possible.

- Provide a 15" wide (min.) \times 13 $\frac{1}{4}$ " high (min.) opening through the cabinet wall. Provide a 4 $\frac{1}{2}$ " wide \times 2 $\frac{1}{4}$ " high opening through the outside wall. Refer to Fig. 2.
- A—Remove the side knockouts from the furnace casing. (One each side on FA-7825; three on FA-7832)
Slide Furnace into cabinet opening. Attach one F-100 duct adapter to each knockout. Slide 4" diameter ducts over adapters and seal with duct tape.
B—Bottom ducted models- Remove two screws from casing bottom and slide out bottom cover plate. (NOTE: some models are shipped without this cover plate.) Slide furnace over duct adapter and seal with duct tape.
- Secure furnace to compartment floor with screw through hole in casing bottom, push top of door closed and secure with latch.
- Gas Piping:** Connect Gas supply line with a capacity to provide 11" W.C.. Pressure to the gas control inlet fitting ($\frac{3}{8}$ " minimum O.D. tubing must be used). NOTE: If local codes require an external gas "shut off valve" it must be located outside the furnace casing.
- Be sure that the **Entire** gas system is tight, properly supported and free of leaks. Do not fire any appliance until the entire system is fully checked out. Use a soap and water solution to detect gas leaks, never a lighted match or flame.
- Electrical Wiring:** Route the 12V.D.C. and thermostat leads to the furnace wires located on the right side of the casing and connect.

CONNECTIONS

Supply Leads

Plus 12V.D.C. (+) and _____ TO _____
Negative 12V.D.C. (-) _____ TO _____
One Thermostat _____ TO _____

Furnace Wiring

Red Wire marked
Thermo + 12 V.D.C.
Black Wire marked
- 12V.D.C.
White Wire marked
Thermostat

Observe polarity of leads when connecting.

NOTE: Supply leads other than thermostat should be 14 GA. Min.

08025

7. **Thermostat:** Locate the Thermostat about four feet above the floor, at least a foot from windows, four feet from doors and preferably on an inside wall. Run two-conductor wire from furnace to thermostat use a thermostat suitable for 12V.D.C. **CAUTION:** Do not short any leads to ground. Any shorting or arcing may damage furnace components and thermostat.
8. **Vent Installation:** NOTE: Select the vent kit required for your overall installed cabinet and wall thickness as follows:

Cabinet Depth:

min 23½ to max 26½	min 26½ to max 28½	min 28½ to max 32
Vent Kit No. F-27	F-29	F-32

A—Apply mastic or sealant to back of Extension Box and slide through 4½ wide × 2¼ high outside wall cut out.

Telescope into furnace air channel. NOTE: Extension box must overlap box on furnace a minimum of ½".

B—Apply mastic or Sealant to back outer edge of vent grill. Slide assembly into furnace exhaust tube. Push into wall and secure with two screws. NOTE: Exhaust tube on vent cap must overlap exhaust tube on furnace a minimum of 1¼"

OPERATING INSTRUCTIONS

("D" Models) With Direct Spark Ignition

This furnace has a direct spark ignition systems conforming to ANS Z21.20 standards. There is no pilot light.

To place furnace in operation:

1. Turn gas valve to "on" position (NOTE: Some models may be equipped with a gas valve that does not have a gas control knob).
2. Set thermostat to lowest temperature setting, then to desired temperature (If thermostat has an "off" switch turn to "on"). Adjust the installation to obtain the temperature rise within the range specified on furnace rating plate.

("S" Models) with Piezo & Pilot Light

To place furnace in operation:

1. Press gas cock dial in and turn to "off".
2. Turn thermostat to lowest setting and wait 5 minutes.
3. Turn gas valve knob to "pilot".
4. Press gas valve knob in and light by pushing in on ignitor repeatedly until pilot lights. Hold gas valve knob in for one minute or until pilot remains lit.
5. Turn the gas valve knob to "on". NOTE: For best results fan should be in operation when turning gas valve to "on" position.
6. Set thermostat to desired temperature.
7. For complete shut down, turn gas valve knob to "off" position and thermostat to lowest setting or off.

PREVENTIVE MAINTENANCE

1. Clean complete furnace and air tube passageways periodically as needed to remove dust, lint, etc.
2. Check gas system for leaks at least once a year.
3. Check and clean blower wheel annually.

IMPORTANT INSTALLATION & SERVICE INFORMATION

1. If coach is equipped with a dual AC/DC electrical system or a generator, make sure thermostat is turned to "off" before switching from one power source to another.
2. Do not attempt to alter the furnace for a positive ground system.
3. Do not replace any original wire with anything less than type rated at 105° C or its equivalent.
4. Do not attempt to connect the furnace to 115 volt A.C. power supply.
5. Do not operate the furnace with the electrode wire or the electrode assembly disconnected.
6. Do not operate the furnace through a battery charger.
7. Do not attempt field repairs on the electrical module on "D" models.
8. Do not install the furnace on top of floor coverings or store flammable liquids or vapors in the vicinity.

9. Do not install furnace where clearances from combustible materials can not be maintained.
10. Do not attempt to ignite a direct ignition furnace with a match, torch, or flint type ignitors.
11. Do not make design changes or modify the furnace in anyway.
12. Do not attempt to convert the furnace to natural gas.
13. Do not install the furnace where it can not be easily removed for service.
14. If located in a range or storage compartment, provide an enclosure to isolate the furnace return airways.

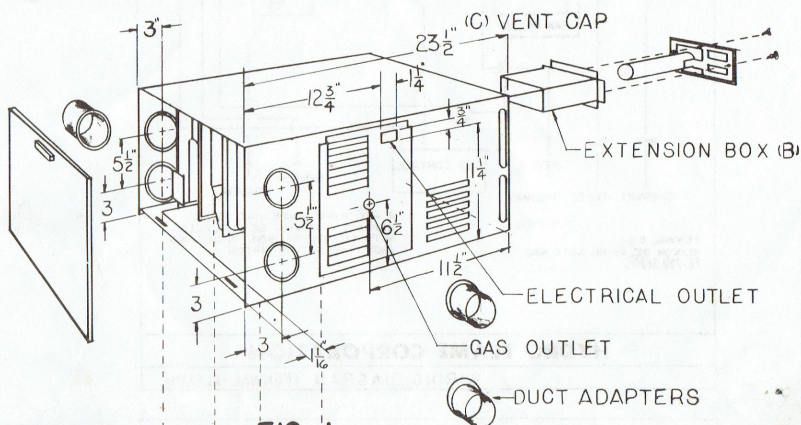


FIG. 11

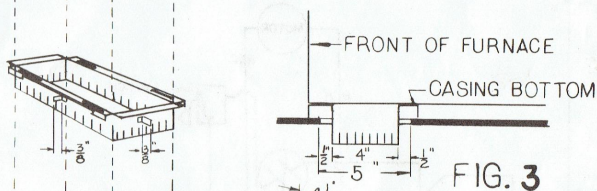


FIG. 3

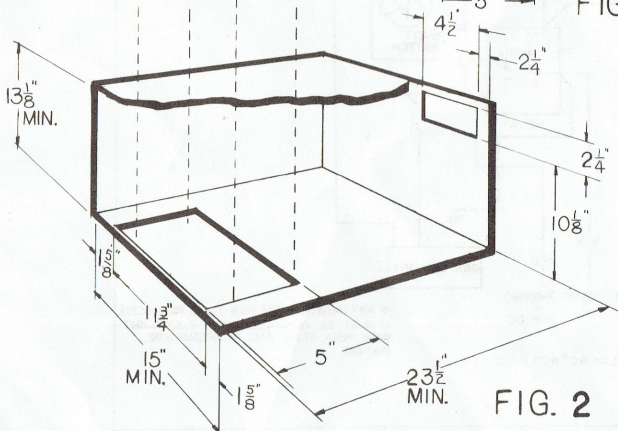
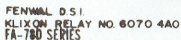


FIG. 2



IF ANY ORIGINAL WIRE HAS TO BE REPLACED, IT MUST BE REPLACED WITH EQUIVALENT WIRE INSULATION AND TEMPERATURE RATING.

WIRING DIAGRAM (FENWAL-KLIXON)

LIXON RELAY NO. 607-04A0

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PILOT FURNACE WIRING DIAGRAM